

CLAIM AMENDMENTS

Claims 1 - 15 are pending. Claims 1 and 3 are amended and claims 5 - 15 are newly added.

1 1. (currently amended) An add/drop cross connection apparatus connected between east and
2 west aggregate units of a synchronous digital hierarchy system, comprising:

3 an aggregate unit matching device for providing matching with the aggregate units;

4 a higher order path connection circuit for subjecting received higher order path data to cross
5 connection by space switching;

6 a lower order path connection circuit for subjecting received lower order path data to cross
7 connection by ~~space~~ time switching; and

8 a selector for selectively delivering the data supplied from said aggregate units, higher order
9 tributary device, and lower order tributary device, wherein said selector delivers said data to said
10 higher order path connection circuit or lower order path connection circuit according as said data is
11 the higher or lower order path data.

1 2. (original) The add/drop cross connection apparatus as set forth in claim 1, wherein said
2 higher order path connection circuit is constructed in the same module with said selector.

1 3. (currently amended) An add/drop cross connection apparatus having multiplex section
2 adaptation circuits for matching high order path data to a system clock, high order path overhead
3 monitor circuits for monitoring higher order path overheads of data respectively supplied from the
4 east and west aggregate units and high order unequipped generators for generating unequipped

5 signals and transferring data to the east and west units, said add/drop cross connection apparatus
6 being connected between east and west aggregate units of a synchronous digital hierarchy system, said
7 add/drop cross connection apparatus comprising:

8 a higher order path connection circuit for subjecting received higher order path data to cross
9 connection by space switching;

10 a lower order path connection circuit for subjecting received lower order path data to cross
11 connection by space time switching; and

12 a selector connected via a single path to a higher order tributary device and a lower order
13 tributary device, wherein said selector selectively delivers higher order path data from said higher
14 order tributary device to said higher order path connection circuit and selectively delivers lower order
15 path data from said lower order tributary device to said lower order path connection circuit based on
16 whether said data is higher order path data or lower order path data.

1 4. (original) The add/drop cross connection apparatus as set forth in claim 3, wherein said
2 selector receives data from one of said east and west aggregate units via said higher order path
3 connection circuit and selectively provides the received data to said higher order tributary device
4 when said received data is higher order path data and selectively provides the received data to said
5 lower order tributary device via said lower order path connection circuit when said received data is
6 lower order path data.

1 5. (new) An add/drop cross connection apparatus connected between aggregate units of a
2 synchronous digital hierarchy system, comprising:

3 an aggregate unit matching device for providing matching with the aggregate units;

4 a higher order path connection means comprising:

5 a higher order path circuit performing cross connection by space switching to
6 communicate data between one of said aggregate units and a higher order tributary device;
7 and

8 a selector selectively delivering data between said higher order path circuit to said
9 higher order tributary device when said data is higher order path data;

10 a lower order path data processor comprising:

11 a lower order path overhead monitor for detecting path overhead bytes of received
12 data;

13 a lower order path connection circuit performing cross connection by time switching
14 for subjecting received lower order path data to cross connection by; and

15 a lower order unequipped generator for generating unequipped signals by unit of
16 VC11 (virtual container-eleven) or VC12 (virtual container-twelve); and

17 said selector selectively delivering data to said lower order path overhead monitor from a
18 lower order tributary device when said data is lower order path data.

1 6. (new) The add/drop cross connection apparatus as set forth in claim 5, said lower order
2 path data processor further comprising:

3 a higher order path termination circuit for processing a path overhead of a higher order virtual
4 container; and

5 a higher order path adaptation circuit for aligning data by unit of TU11 (tributary unit-

eleven) or TU12 (tributary unit-twelve).

7. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, when lower order path data is to be delivered to one of said aggregate units from said lower order tributary device, said selector delivers the lower order path data to said lower order path overhead monitor, said lower order path overhead monitor provides the data to said lower order path connection circuit, said lower order path connection circuit provides the data to said lower order unequipped generator, said lower order unequipped generator provides the data to said higher order path termination circuit, said higher order path termination circuit provides the data to said higher order path circuit and said higher order path circuit provides the data to said one of said aggregate units via said aggregate unit matching device.

8. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, when higher order path data is to be delivered to one of said aggregate units from said higher order tributary device, said selector delivers the higher order path data to said higher order path circuit and said higher order path circuit provides the data to said one of said aggregate units via said aggregate unit matching device.

9. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, when higher order path data subjected to lower order path cross connection is to be delivered to one of said aggregate units from said higher order tributary device, said selector delivers the higher order path data to said higher order path circuit, said higher order path circuit provides the data to said higher

5 order path termination circuit, said higher order path termination circuit provides the data to said
6 higher order path adaptation circuit, said higher order path adaptation circuit provides the data to said
7 lower order path overhead monitor, said lower order path overhead monitor provides the data to said
8 lower order path connection circuit, said lower order path connection circuit provides the data to said
9 lower order unequipped generator, said lower order unequipped generator provides the data to said
10 higher order path termination circuit, said higher order path termination circuit provides the data to
11 said higher order path circuit and said higher order path circuit provides the data to said one of said
12 aggregate units via said aggregate unit matching device.

1 10. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, when
2 lower order path data is to be delivered from one of said aggregate units to said lower order tributary
3 device, said one of said aggregate units delivers the lower order path data to said aggregate unit
4 matching device, said aggregate unit matching device provides the data to said higher order path
5 circuit, said higher order path circuit provides the data to said selector, said selector delivers the data
6 to said higher order path termination circuit, said higher order path termination circuit provides the
7 data to said higher order path adaptation circuit, said higher order path adaptation circuit provides
8 the data to said lower order path overhead monitor, said lower order path overhead monitor provides
9 the data to said lower order path connection circuit, and said lower order path connection circuit
10 provides the data to said lower order tributary device via said selector.

1 11. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, when
2 higher order path data is to be delivered from one of said aggregate units to said higher order

3 tributary device, said one of said aggregate units delivers the higher order path data to said aggregate
4 unit matching device, said aggregate unit matching device provides the data to said higher order path
5 circuit, said higher order path circuit provides the data to said selector, and said selector delivers the
6 data to said higher order path tributary device.

1 12. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, when
2 higher order path data is to be delivered from one of said aggregate units to the other one of said
3 aggregate units, said one of said aggregate units delivers the higher order path data to said aggregate
4 unit matching device, said aggregate unit matching device provides the data to said higher order path
5 circuit, said higher order path circuit provides the data to said aggregate unit matching device, and
6 said aggregate unit matching device provides the data to said other one of said aggregate units.

1 13. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, when
2 lower order path data is to be delivered from one of said aggregate units to the other one of said
3 aggregate units, said one of said aggregate units delivers the lower order path data to said aggregate
4 unit matching device, said aggregate unit matching device provides the data to said higher order path
5 circuit, said higher order path circuit provides the data to said higher order path termination circuit,
6 said higher order path termination circuit provides the data to said higher order path adaptation
7 circuit, said higher order path adaptation circuit provides the data to said lower order path overhead
8 monitor, said lower order path overhead monitor provides the data to said lower order path
9 connection circuit, and said lower order path connection circuit provides the data to lower order
10 unequipped generator, said lower order unequipped generator provides the data to said higher order

11 path termination circuit, said higher order path termination circuit provides the data to said higher
12 order path circuit and said higher order path circuit provides the data to said other one of said
13 aggregate units via said aggregate unit matching device.

1 14. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, lower
2 order path data input to said selector and returned said lower order tributary device is delivered to
3 said lower order path overhead monitor, said lower order path overhead monitor provides the data
4 to said lower order path connection circuit, said lower order path connection circuit provides the data
5 to said lower order unequipped generator, and said lower order unequipped generator provides the
6 data to said lower order tributary device via said selector.

1 15. (new) The add/drop cross connection apparatus as set forth in claim 6, wherein, higher
2 order path data input to said selector and returned said higher order tributary device is delivered to
3 said higher order path circuit, and said higher order path circuit provides the data to said higher order
4 tributary device via said selector.